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TRANSHUMANISM AND POSTHUMANISM

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At one time or another, most people have dreamed of having the ability to fly (without technological assistance), of never having to have to age or die, or of having bodies and minds that transcend human limitations. Yet in the end people move on with their lives, trying to learn to deal with the realities of finitude and mortality. This is necessary, given the lack of means to significantly alter biological constraints. Yet new technologies may soon begin to enable people to transcend such limitations. With such technologies, however, come questions about the appropriateness of actually pursuing and employing them to experience greatly extended longevity—perhaps even some form of physical immortality—and to re-engineer the human body to expand

its functional capacity. Transhumanism and posthumanism are worldviews, or philosophies, that strongly favor an affirmative reply to these questions and that look forward to the day when *homo sapiens* have been replaced by biologically and technologically superior beings.

Transhumanism has been defined as “the intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by using technology to eliminate aging and greatly enhance human intellectual, physical, and psychological capacities” (Bostrum, 1999). A posthuman would no longer be a human being, having been so significantly altered as to no longer represent the human species. Underlying this worldview is a core belief that the human species in its current form does not represent the end of our development, but rather its beginning (Bostrom, 1999).

The tools transhumanists would use to achieve their ends include genetic manipulation, nanotechnology, cybernetics, pharmacological enhancement, and computer simulation. The most ambitious—and controversial—transhumanist vision involves the concept of *mind uploading*. According to proponents, advances in computing and neurotechnologies will, within several decades, enable individuals to completely read the synaptic connections of the human brain, enabling an exact replica of the brain to exist and function inside a computer. This simulation could then “live” in whatever mechanical body-form it desired (Kurzweil). In his book *The Enchanted Loom* (1981), Richard Jastrow speculated about this future time: “At last, the human brain, ensconced in a computer, has been liberated from the weakness of the mortal flesh.... It is in control of its own destiny.... Housed in indestructible lattices of silicon, and no longer constrained in its span of years, ... such a life could live forever” (p.166–167).

Origins of Transhumanism

While the terms *transhumanism* and *posthumanism* are very recent in creation, the ideas they represent are anything but new. The underlying philosophical ideals are fully those of the Enlightenment, imbued with a healthy dose of post-modern relativism. From the Enlightenment comes a fully reductionistic view of human life characteristic of that movement’s materialistic empiricism. In *L’Homme Machine* (*Man a Machine*), written in 1748, the French physician and philosopher Julien Offray de la Mettrie wrote that humans “are, at bottom only animals and machines,” while the Marquis de Condorcet, another French Enlightenment philosopher, wrote in 1794 that “no bounds have been fixed to the improvement of faculties ... the perfectibility of man is unlimited.” These eighteenth century ideas could be easily

updated to recent transhumanist writings, such as Bart Kosko's *The Fuzzy Future* (1999), in which he proclaims: "Biology is not destiny. It was never more than tendency. It was just nature's first quick and dirty way to compute with meat. Chips are destiny" (p. 256). Consider also Kevin Warwick's declaration, written in 2000, "I was born human. But this was an accident of fate—a condition merely of time and place. I believe it's something we have the power to change" (p. 145). Derived from other Enlightenment ideals is a fierce libertarianism, supported by a postmodern moral skepticism, that proclaims that each individual is the final arbiter of what is right and appropriate for his or her life or body. One also sees a precedent for transhumanist thinking in Frederick Nietzsche's thoughts on the will to power and the *ubermensch* (superman), particularly in *Thus Spake Zarathustra*, "man is something to be overcome" (p. 12).

As a named movement, transhumanism started in the 1980s with the writings of a futurist known as FM-2030, with the term *transhuman* being a shorthand for *transitional human* (Bostrom, 1999). Transhumans were "the earliest manifestation of new evolutionary beings, on their way to becoming posthumans" (FM-2030). Within the first years of the 1990s, a whole series of groups emerged embracing transhumanist ideology, including the Extropians, the Transtophians, and the Singularitarians, the latter group anticipating and working to bring about the technological "Singularity" predicted by Vernor Vinge. Writing in 1993, Vinge predicted that the exponential increase in scientific and technical knowledge, coupled with feedback loops from artificial intelligence systems, would soon lead to a massive destabilization and transformation of all social structures, technical devices, and human beings, who would be transformed into superior beings. While the Singularity is the most extreme of the transhumanist visions, the idea that humankind should engineer the next phase of its own evolution, and that human beings should be augmented and altered, even to the point of losing their humanity, has captured the thinking of numerous faculty and leaders in the engineering and scientific establishment. This can no better be illustrated than the National Science Foundation's (NSF) proposed plan for converging several technologies, including nanotechnology, biotechnologies, information technologies, and cognitive technologies (such as cybernetics and neurotechnologies) for the expressed purpose of improving human performance (Roco and Bainbridge).

Fundamentals of Transhumanism and Posthumanism

The first assertion of transhumanist thinking is a rejection of the assumption that human nature is a constant (Bostrom,

1999). There is nothing sacrosanct about *nature* in general, or about *human nature* in particular. Criticisms of attempts to modify nature as "playing God" or as the ultimate human hubris are therefore rejected as inappropriate.

Katherine Hayles, in her book *How We Became Posthuman* (1999), describes four characteristic posthuman, or transhuman, assumptions. First, information patterns are more important or essential to the nature of being than any "material instantiation, so that embodiment in a biological substrate is seen as an accident of history rather than an inevitability of life" (p. 2). Second, consciousness is an epiphenomenon. There is no immaterial soul. Third, the body is simply a prosthesis, albeit the first one we learn to use and manipulate. Consequently, replacing or enhancing human function with other prostheses is only a natural extension of our fundamental relationship with our begotten bodies. Lastly, the posthuman views the human being as capable of being "seamlessly articulated with intelligent machines. In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot technology and human goals" (p. 3).

Ethical Issues

One of the first significant ethical issues relating to transhumanism and posthumanism is the question of enhancement or augmentation: should human beings augment or enhance themselves and future generations? This is not a simple question to answer, though humans have made a practice of augmenting and enhancing themselves throughout recorded history. This is the nature and explicit goal of all tool use and education. Yet there are some implicit boundaries that transhumanist modifications challenge.

As an example, consider correction of vision. The use of glasses or contact lenses to correct vision is an example of a commonly employed augmentation. Yet this intervention is only correcting a deficiency, returning the individuals function to species-normal levels. It is thus a healing intervention more than an enhancement. What becomes problematic for some is when the augmentation or enhancement in question potentially exceeds the function that could be achieved by the finest specimens of *homo sapiens* trained in the most rigorous fashion. People accept the use of some enhancing technologies, such as telescoping or microscopy, which may be used for a time, and for a specific purpose, but cannot become a permanent fixture of the human being. They remain tools, rather than becoming attributes. Thus it is acceptable to use a computer or personal digital assistant (PDA), which can be separated from the user, but permanently enhancing the brain with cybernetic connections or

brain implants seems to many to cross a boundary that should not be violated. Why is this so?

Two criticisms of such permanent enhancements are that: (1) they are unnatural; and (2) they engage people in activities that should be the sole purview of the deity—"Playing God" is a frequent aspersion thrown at enhancement technologies. While these are both legitimate concerns, the rhetoric used in the critique typically misses the point, which is a concern about the appropriateness, personal and social consequences, and wisdom of pursuing the proposed modifications and are thus generally dismissed as irrelevant by transhumanists (without addressing the genuine issues).

Transhumanists dismiss the claim of *unnatural* because most of what human beings do with any technology is *unnatural*, yet these uses are accepted as benefits, not harms. As to the second argument, many, if not most, transhumanists are agnostic or atheists, and thus engaging in a supposed Promethean rebellion against the gods is not to them a legitimate concern. The issue is one of great concern to theists, however, though the way the argument is commonly expressed comes close to violating their own basic theological tenants. Can God be so easily dethroned? Can the creature really act outside the permissive will of the creator? Further, many theologians assert that part of the *Imago Dei*, the "image of God," that humankind is said to bear, is the creative impulse.

The real issue of concern to those who object to or are wary of transhumanist goals is that human beings are engaging in activities that may have a profound impact on the individuals involved, as well as on the surrounding environment, without balancing forces or divine wisdom that might minimize possible negative consequences of such activities. From the environmental, or naturalist, perspective, the changes are occurring too swiftly and too dramatically for ecosystems or individual creatures to evolve appropriate safeguards or counterbalances. From the more theistic perspective, these changes are occurring without proper understanding and respect for God's initial designs and plan, and certainly without God's foresight or wisdom. In the end, both arguments are expressing concern for the great harm that these interventions could potentially induce, calling into question activities that presuppose a significant degree of knowledge, foresight, and wisdom that may, and most likely will, be lacking. Hubris, therefore, not ingenuity or even a passion for change, is the fundamental problem.

For others, however, even if such enhancements would not be tried until there was careful prospective evaluation for, and protections against, undesirable consequences, any

intervention intended to move function beyond species-normal levels would be rejected. This leads to the next series of concerns: the social consequences of transhumanism. The pursuit of transhumanist goals could lead to individuals and communities possessing significant differences in the type and extent of biotechnological modifications. One consequence of these disparities will be the likelihood of discrimination—against both the enhanced and the unenhanced, as each community may feel threatened by the other. Claims of unfair competitive advantage are probable, potentially leading to attempts at restrictive legislation. Yet it is doubtful such restrictions would find sufficient consensus to be passed, let alone prevent the enhancements from taking place. According to Freeman Dyson, a British physicist and educator, "the artificial improvement of human beings will come, one way or another, whether we like it or not, as soon as the progress of biological understanding makes it possible. When people are offered technical means to improve themselves and their children, no matter what they conceive improvement to mean, the offer will be accepted.... The technology of improvement may be hindered or delayed by regulation, but it cannot be permanently suppressed.... It will be seen by millions of citizens as liberation from past constraints and injustices. Their freedom to choose cannot be permanently denied" (p. 205–206). Particularly powerful—especially in the United States, which is predicated upon the right to life, liberty, and the pursuit of happiness—is the argument posed by the transhumanist Anders Sandberg that freedom to pursue enhancing technologies is a fundamental matter of the right to life.

One likely consequence of this is that multiple communities will develop that adhere to certain values and agreed-upon levels of technological modification. But as some groups may choose lesser degrees of enhancement they may run the risk of becoming ghettoized or restricted from other goods of the larger society that they may still desire. While some transhumanists are quite clear that they do not wish to force their desires for enhancement onto others (Bostrom, 1999), as a group, or even as individual scholars, they have not satisfactorily resolved how tolerance will be maintained both within and outside their communities of choice. In fact, some transhumanists already display belligerent attitudes against skeptics and dissenters (Dvorsky; Smith; Shropshire).

This fact itself acknowledges one of the fundamental flaws of transhumanist, or any other, utopian thinking: the failure to understand the darkness, the fears, and the unpredictability of each human heart. The lesson of the twentieth century, such as the experience with eugenics, fascism, and communism, should have been to beware the power of utopian dreams to enslave, destroy, and demean, rather than

provide the promised justice, freedom, and human flourishing. Now the transhumanists offer yet another form of human contrivance to provide salvation for all. This time the faustian bargain is with technology—what John McDermott, a professor emeritus in labor studies at the State University of New York at Old Westbury, has referred to as “the opiate of the intellectuals”—rather than with economic or political systems.

Technology is not inherently evil, and has in fact been the source of much good (as well as harm). It is but a tool, and as a tool must be carefully examined and carefully used. Transforming ourselves into our tools in the hopes of achieving immortality is an illusion. Decay cannot be forestalled indefinitely. If one must change the underlying substrate of the body to “live,” then it is really something else that exists, not the original being, and death will still need to be confronted. Extended life may be achieved, but at what social cost? How will people deal with greatly enhanced life spans? What will be the impact on economic structures, the workforce, and reproduction? These questions are all, as yet, unanswered by the transhumanists and the Converging Technologies project of the NSF. While it is doubtful that consensus could ever be reached on enhancing or augmenting technologies, humankind must engage prospectively in a full and open dialogue concerning the coming technologies and their implications.

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SEE ALSO: *Cybernetics; Enhancement Uses of Medical Technology; Nanotechnology*

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TRIAGE

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Triage is the medical assessment of patients to establish their priority for treatment. When medical resources are limited